

What is claimed is:

1. A multilayer mat comprising:

a non-intumescent layer having a first major surface and a second major surface opposite the first major surface, said non-intumescent layer comprising inorganic fibers;

a first intumescent layer facing the first major surface of the non-intumescent layer, wherein the first intumescent layer is a first outer layer of the multilayer mat; and

a second intumescent layer facing the second major surface of the non-intumescent layer, wherein the second intumescent layer is a second outer layer of the multilayer mat.

2. The multilayer mat of claim 1, wherein the first intumescent layer and the second intumescent layer each comprise an intumescent material selected from vermiculite, expandable graphite, or combinations thereof.

3. The multilayer mat of claim 1, wherein the non-intumescent layer has a thickness that is at least 50 percent of a total thickness of the multilayer mat.

4. The multilayer mat of claim 1, wherein the non-intumescent layer is thicker than the first intumescent layer and the non-intumescent layer is thicker than the second intumescent layer.

5. The multilayer mat of claim 1, wherein the inorganic fiber comprises a ceramic fiber having a bulk shrinkage no greater than 10 percent.

6. The multilayer mat of claim 1, wherein the inorganic fibers comprise glass fibers.

7. The multilayer mat of claim 1, wherein the inorganic fibers comprise glass fibers and both the first and second intumescent layers comprise vermiculite.

8. The multilayer mat of claim 1, wherein the inorganic fibers comprise a ceramic fiber having a bulk shrinkage no greater than 10 percent and both the first and second intumescent layers comprise vermiculite.
- 5 9. The multilayer mat of claim 1, wherein two or more layers of the multilayer mat are bonded together with an adhesive, needle bonding, or stitching.
10. A pollution control device comprising:
- 10 a first metal housing;
- a pollution control element inside the first metal housing;
- a multilayer mounting mat positioned between the first metal housing and the pollution control element, said multilayer mounting mat comprising:
- 15 a non-intumescent layer having a first major surface and a second major surface opposite the first major surface, said non-intumescent layer comprising inorganic fibers;
- a first intumescent layer facing the first major surface of the non-intumescent layer, wherein the first intumescent layer is a first outer layer of the multilayer mat; and
- 20 a second intumescent layer facing the second major surface of the non-intumescent layer, wherein the second intumescent layer is a second outer layer of the multilayer mat.
11. The pollution control device of claim 10, further comprising a second metal housing surrounding the first metal housing, wherein an exhaust gas passes
- 25 between the first metal housing and the second metal housing.
12. The pollution control device of claim 10, wherein the non-intumescent layer has a thickness that is at least 50 percent of the total thickness of the multilayer mat.

13. The pollution control device of claim 10, wherein the non-intumescent layer is thicker than the first intumescent layer and the non-intumescent layer is thicker than the second intumescent layer.
- 5 14. The pollution control device of claim 10, wherein the inorganic fibers comprise ceramic fibers having a bulk shrinkage less than 10 percent.
15. The pollution control device of claim 10, wherein the inorganic fibers comprise glass fibers.
- 10 16. The pollution control device of claim 10, wherein the inorganic fibers comprise glass fibers and both the first and second intumescent layers comprise vermiculite.
- 15 17. The pollution control device of claim 10, wherein the inorganic fibers comprise ceramic fibers having a bulk shrinkage less than 10 percent and both the first and second intumescent layers comprise vermiculite.
18. The pollution control device of claim 10, wherein the pollution control element is a diesel particulate filter.
- 20 19. The pollution control device of claim 10, wherein the mounting mat has sufficient holding pressure at operating temperatures both higher than and lower than a temperature suitable for expanding the first and second intumescent layers.
- 25 20. A method of forming a multilayer layer mat, said method comprising:
providing a non-intumescent layer having a first major surface and a second major surface opposite said first major surface, said non-intumescent layer comprising inorganic fibers;
positioning a first intumescent layer facing the first major surface of the
30 non-intumescent layer, said first intumescent layer being a first outer layer of the multilayer mat; and

positioning a second intumescent layer facing the second major surface of the non-intumescent layer, said second intumescent layer being a second outer layer of the multilayer mat.

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